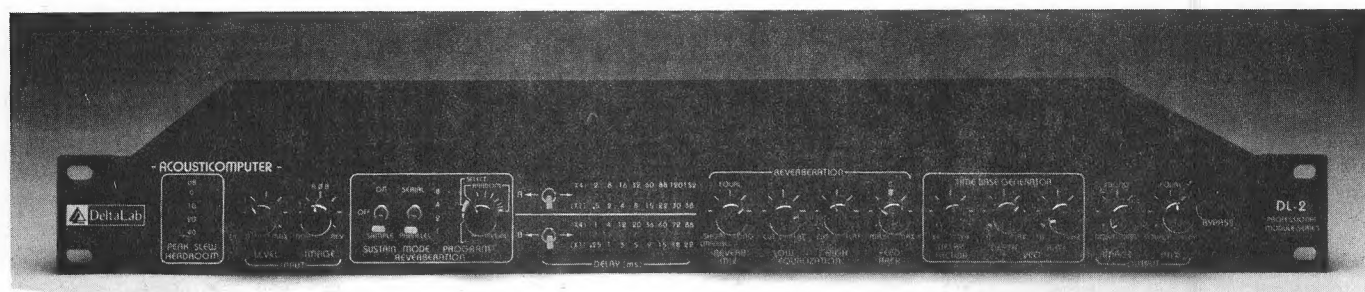


Input Output: Instruments and Accessories

The DeltaLab Acousticcomputer

by Fred Miller



About three years ago, in the first issue of BACKBEAT, I reviewed Norlin's Polymoog synthesizer and waxed virtually rhapsodic about the exciting developments that were taking place in the applied audio biz with respect to integrated circuits and microprocessors. At that time, the biggest news in recording studios was Eventide's \$5,000 digital delay unit - big news because, for the first time, one source offered a variety of special effects. The Polymoog was innovative because it combined the ease of simple electronic keyboard operation with the sophistication of a complicated synthesizer.

Already the revolutionary aura of those instruments has faded. Since their introduction, we've seen digital recording become a practical reality, with several studios boasting 32-channel machines using 1-inch tape with a signal-to-noise ratio of better than 90 dB, no wow and flutter, inaudible distortion, and higher fidelity than ever. We've seen the advent of guitar synthesizers, cordless transmitters, computer operated mixdown, and Giorgio Moroder's all-electronic disco record zooming up the charts. While all this technology has brought an undeniable backlash - including the emergence of new wave music, the resurgence of heavy metal rock & roll, and the rediscovery of the acoustic piano - it nonetheless has become a part of our lives.

What's to come in the Eighties? Digital consoles and recorders will be a reality shortly, video discs with digital stereo sound are in the development stages, and the day will soon arrive when a home recordist can make a better recording with a couple thousand dollars' worth of equipment than the big 48-track remote trucks did in the 1970s. So fasten your seatbelts and get ready for yet another decade of mind-blowing innovation.

Though the subject of this month's column won't exactly put you in shock, it is a stellar example of how technology has enabled us to

stuff more flexibility into smaller and less expensive packages. The DeltaLab Research **DL-2 Acousticcomputer** is a digital effects device with an uncannily wide range of capabilities. In addition to offering the usual doubling and thickening effects, it can be used as a stereo digital delay, since it has two independent channels with their respective inputs and outputs. The sixteen reverberation programs stored in its memory make it possible to simulate anything from concert-hall acoustics to cardboard tube echo. You can also achieve a broad variety of flanges with it and, when coupled with an external reverb device (such as a live chamber or EMT plate), delay the onset of reverberation to create what used to be called "tape slap." And, of course, it generates all kinds of R2D2 space sounds.

The DL-2 is quite complex, but its well-thought-out owner's manual comes complete with suggested setups, much as a synthesizer manual comes with a patch book. Several of its features are particularly well planned and executed: both balanced (XLR) and unbalanced (phone type) input and output jacks, which can be used at the same time; an input level control for both channels with LEDs to indicate peak level; and two additional rows of LEDs to show the delay ranges of channels A and B. As with other delay devices, the DL-2 uses a feedback circuit to lengthen the delays and includes the fairly standard mix pot to blend the original signal with the processed one in the ratio of your choice. There is an internal voltage-controlled oscillator for modifying the delay signal, a sample and hold generator for random reflections of the original sound source, two bands of equalization, a stereo reverse pot, and a time-base generator that can be operated in conjunction with the VCO. This enables the user to expand the range of the delay times by a factor of four, so that the delays may occur from a minimum of 0.25 milliseconds to a maximum of 240

milliseconds since the delays may be used independent of each other (PARALLEL mode) or cascaded (SERIAL mode). The back panel includes two jacks for footswitches - to either bypass the DL-2 or to repeat the events just created - and one for an external control oscillator from another source, such as a synthesizer. You can also interface the Acousticcomputer with an optional module that expands its memory capability by as much as 2 seconds of delay time.

Among the effects suggested in the owners' manual are rotating speaker, chorus vibrato, simultaneous reverb and phasing, doubling, and digital sample flanging. And there are more. Some of the effects we used were reverb, echo, flanging, tape slap, chorusing, and vibrato. Our field-testing showed the DL-2 to be a clean machine. The manufacturers' specifications for dynamic range are excellent (80-90 dB), and frankly I never even thought about noise when I used it - it just wasn't a factor. The variety of sounds it produced was virtually infinite, and the unit's size and design makes it extremely convenient to use. It takes up all of 1 3/4 inches of rack space, and the basic features mentioned above, particularly the jacks and the metering, make it relatively easy to deal with under pressure. A word of warning: The Acousticcomputer is a complicated device, and it takes considerable practice to zero in on a specific sound or effect. But spend enough time with it, and you'll be greatly rewarded.

I was in all cases impressed by the performance of the DL-2. The reverberation characteristics are diverse and can be quite real sounding (compared with other similar devices), the quality of the delays is beyond reproach, and the flanging is certainly adequate. Finally, it's a high-quality versatile tool with a very affordable price tag of \$1,750. DeltaLab Research has planted its best foot firmly in the Eighties.